

NOTES ON AUSTRALIAN ABORIGINAL STONE WEAPONS AND IMPLEMENTS.

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(Plates IV.-VIII.)

I am able to continue * investigations in this interesting subject through the kindness of several collectors, notably Sir W. Macleay, Dr. J. C. Cox, and Mr. C. W. de Vis, M.A., Curator of the Queensland Museum. To the first I am indebted for the loan of nine stone weapons from "various parts of N. S. Wales," which were exhibited at this Society's Meeting on October 31st, 1883, by Mr. J. G. Griffin, C.E.†; to the second for a series of N. S. Wales tomahawks in different stages of preparation; and to Mr. De Vis for a valuable selection of implements from the Queensland Museum, Brisbane. There will also be found descriptions of the remainder of Mr. W. W. Froggatt's specimens from North-west Australia; some from the Mining and Geological Museum, and a few others from different sources, which will be suitably acknowledged later on. I am indebted to my colleague Mr. T. W. Edgeworth David for assistance in determining the mineralogical composition of the rocks used for the weapons, but as microscopic sections could not be made, the determinations are tentative only.

x.—*Knives.*

(Pl. v., fig. 1; Pl. vi., fig. 1; Pl. vii., fig. 1.)

Mr. De Vis has forwarded to me five knives, three of the general type of those I lately described as used in the Mika operation,‡ but differing in an important particular; one of a

* Proc. Linn. Soc. N. S. Wales, 1890, v. (2), Pt. 2, pp. 251, 289, and 367.

† *Ibid.* 1884, viii., p. 442.

‡ *Loc. cit.* 1890, pp. 251, 289.

flesh-coloured quartzite resembling therein some spear-heads to be noticed later on ; and another made of glass (Pl. VI., fig. 1). Four of the knives are mounted, and the fifth has been, as evinced by the still adherent gum at the butt. Two of the mounted, and the unmounted knife from "Northern Queensland," are flaked from an impure, streaky, flint-like quartz, but which does not produce so fine and cutting an edge as those formerly described. They are, with one exception, of a rather different type to the latter. It will be remembered that one of those in the Australian Museum was described as more scalpriform than the others, thicker along the back than at the cutting edge, the surface gradually sloping off from the former to the latter, without any angularity. The three knives in question are of this character, altogether stronger and thicker than the Mulligan River Mika-knife. Evans figures† such a knife in the Christy Collection from Queensland, with a "thick somewhat rounded back, not unlike that of an ordinary knife-blade, the butt being covered with fur and wound round with string."

The unmounted knife is four and a quarter inches long, and three-quarters of an inch broad at the back, and is the widest. The cutting edge, in two instances is sharp but uneven, in the third thicker, and blunter. Both lateral surfaces in one are smooth and unworked, but in the other two one face is faceted by chipping. As regards the hafting, the butts of the two mounted specimens have been surrounded with a fibre, the lower end covered with a piece of canvas, or worn blanket, and a handle so formed. Over the fore part of this, native string has been wound, and this coated with one of the black gum preparations so commonly used by the Aborigines. The string used on one of the knives is made of yellow fibre, but round the other a much finer string made of hair, perhaps human, has been wound alternately with the fibre-string. In this instance the gum coating has been continued up the broad back of the knife, nearly to its apex (Pl. VII., fig. 1), and gives one the idea of a protection to a fore-finger,

† Ancient Stone Implements, &c., Gt. Brit., 1872, p. 265, f. 198.

supposing the knife to be so held. The length of the knives, complete, is respectively eight inches, and seven and a half. The surface of the flints is smooth and shining. When describing the Mika-knives a short time ago, I surmised that they were also used for other purposes, and I have since been informed that such knives are employed in fighting, practically in a kind of duello.

The glass knife (Pl. vi., fig. 1), also from "Northern Queensland," is exceedingly interesting, consisting of a small piece of bottle-glass chipped to an oval form, and mounted with black gum to a small wooden handle, which Mr. F. Turner, of the Department of Agriculture, tells me is probably made of the *Acacia sentis*, a very porous wood. The latter is to some extent split, and conveys the idea that the glass is inserted between the halves, which are also partially wound round with fine string of native manufacture. The entire weapon is six inches in length, but the glass blade extends beyond the gum mounting for one inch only. Several similar knives are figured* by Mr. T. Wilson from Southern Utah and other localities, hafted with wood, the attachment being made with bitumen. One is flint, and the others are made of jasper. Another knife of obsidian has the base wrapped in otter skin. The general appearance of these knives closely resembles those now described, particularly the glass knife.†

The quartzite knife is granular and deep flesh-coloured (Pl. v., fig. 1). It is very interesting as being intermediate in form and character between the Mika-knives,‡ formerly described by me, and a spear-head from Torres Straits, in the Australian Museum, to which my attention was called by my colleague Mr. Brazier. That it is a knife, however, appears tolerably certain from the form of the

* A Study of Prehistoric Anthropology.—Handbook for Beginners. *U.S. Nat. Mus. Report*, 1887-88, p. 639, f. 14, p. 641, f. 75-78.

† Glass has probably been used by the Aborigines for a long time. The York's Peninsula Tribe made their knives of shells and afterward of glass, "for they related that they used occasionally to find bottles on the beach many years before the whites came to reside in South Australia." *Curr's Australian Race*, 1886, II., p. 143.

‡ *Proc. Linn. Soc. N. S. Wales*, 1890, v. (2), Pt. 2, Pl. 9 and Pl. 11, figs. 8 and 9.

gum handle, which resembles that of the Mulligan River knife* ; whilst the blade is more akin to one of those from "Northern Queensland," in the Australian Museum,† angular in the middle line of one face, flat on the other. The specimen is five and a half inches long, but the apex is a little broken. The cutting edges, although sharp, have not that degree of fineness visible in the Mulligan River knife, which may be described as razor-edged. The edges in the present case are uneven and a little notched, and would inflict a jagged and awkward wound. It is generally comparable to the knife figured by Smyth, used by the natives of Booloo and Cooper's Creek,‡ except that ours does not possess a handle. It is from the Gregory River.

xi.—*Spear-heads from Kimberley.*

(Pl. v., fig. 2 ; Pl. vi., fig. 2 ; Pl. vii., figs. 2 and 3 ; Pl. viii., figs. 1-3.)

Mr. W. W. Froggatt has lent me twelve spear-heads, brought by himself from the Lennard River. They are similar to those lately described by me from the Ord River,|| now in the Mining and Geological Museum. One is of bottle glass, one of a chocolate-brown, close-grained, ferruginous clay shale, another of an olive-green banded quartzite, two of opaque white chalcedonic quartz, similar to those before described, two of clear rock crystal, and five of opaque milky-white quartz. As regards shape there are two forms, the elongately lanceolate, and the more or less foliolate, corresponding to those already received from the same district. Examined more in detail there are four types, thus :—

- a. Elongately lanceolate, slightly angular on both faces.
- b. Ditto, angular on one face.
- c. Ditto, flat on both faces.
- d. Foliolate, slightly angular on one face, and thicker than a-c.

The bottle glass spear-head, the green quartzite, and three of the milky quartz heads are chipped to an exceedingly fine apex, especially the second one mentioned. The head formed of

* *Loc. cit.* pl. 9.

† *Ibid.* pl. 11, figs. 8 and 9.

‡ Aborigines of Victoria, 1878, I., p. 380, f. 200.

|| Records Geol. Survey N. S. Wales, 1890, II., Pt. 2, p. 61, pl. 6.

chocolate-brown clay shale, the green quartzite, those of opaque white jasperoid quartz, and the rock crystal heads are plain edged and without serrations, and so also are three of the milky quartz, but two of the latter and that formed of bottle glass are beautifully and finely serrated. The whole of the faces are faceted by percussion, even in the milky quartz and rock crystal spear-heads, although the facets on the former of these are less apparent than on the others. When we take into consideration the refractory conchoidal fracture of quartz and glass, the chipping of these spear-heads is a remarkable feat, more especially that of the milky quartz heads with their serrations. This teething is not pointed, or "dog-toothed," but each serration is in most instances square, or at right angles, and corresponds exactly to the figure given by Rear-Admiral King, and referred to in my previous account.

The following table gives the measurements of the eleven spear-heads obtained by Mr. Froggatt, with their forms and mineralogical composition.

No.	Form.	Length.	Breadth.	Thickness.	Rock, etc.
1.	Elongately lanceolate, angled on one face.	$3\frac{3}{4}$ in.	$1\frac{1}{2}$ in.	$\frac{1}{4}$ in.	Bottle glass; edges serrated.
2.	Ditto.	$3\frac{5}{8}$	$1\frac{1}{2}$	$\frac{3}{8}$	White opaque milky quartz; edges serrated.
3.	Ditto.	$3\frac{1}{8}$	$1\frac{1}{4}$	$\frac{1}{2}$	White opaque milky quartz.
4.	Elongately lanceolate, angled on both faces.	$3\frac{3}{8}$	1	$\frac{1}{2}$	Ditto; edges serrated.
5.	Ditto.	$2\frac{1}{8}$	$1\frac{1}{8}$	$\frac{3}{8}$	White opaque milky quartz.
6.	Foliate.	$1\frac{7}{8}$	1	$\frac{3}{8}$	Smoky quartz.
7.	Ditto.	$1\frac{1}{2}$	$\frac{7}{8}$	$\frac{3}{8}$	Ditto; apex broken.
8.	Elongately lanceolate, flat on both faces.	$2\frac{3}{8}$	$1\frac{1}{8}$	$\frac{1}{4}$	Dirty olive-green banded quartzite; apex very sharp.
9.	Ditto.	$3\frac{1}{8}$	$1\frac{1}{4}$	$\frac{3}{8}$	Brown-red (ferruginous) clay shale.
10.		$1\frac{5}{8}$	1	$\frac{3}{8}$	White chalcedonic quartz.
11.		$2\frac{1}{4}$	$1\frac{3}{8}$	$\frac{3}{8}$	Ditto; poor specimen.

These figures show how very uniform in general the size of the spear-heads is; or, when there is a gradation, it is regular and gradual. The eleventh specimen is rough and unfinished, and the twelfth is hardly worth recording in detail.

Somewhat similar spear-heads are figured from the United States by Mr. T. Wilson, especially one with square jagged edges and marginal facets.*

Mr. Froggatt informs me that the Lennard River Blacks use these spear-heads almost wholly in personal attack and encounters, seldom in sporting, and that these extremely fine heads are carried about unmounted, and placed in position on the spears as required. They are carried in a chignon, made of emu feathers matted together, and attached to the back hair. The hair is worn long, similar to that of the Cooper's Creek natives, who do it up in a head-net.† Inside this chignon the spear-heads are wrapped in paper-bark. Thanks to Mr. Froggatt I have much pleasure in exhibiting one of these ingenious contrivances.

The Lennard River Aborigines, like those of the Victoria River described by Mr. T. Baines, and referred to in my former paper on similar spear-heads, place themselves in a squatting position when preparing these weapons, and use the ball of one of their great toes as a cushion, against which the stone to be chipped is placed and then struck.

In addition to the foregoing, Mr. Froggatt has also brought a curious stone weapon which appears to be a partially prepared spear-head of a rather different type (Pl. iv., fig. 1). A small transversely elongated and roughly rounded piece of black laminated jasperoid claystone, arched on one side, and flat, or a little concave on the other, has been roughly chipped along the arched sides producing irregular conchoidal facets. The weapon is three and a half inches long, and one inch wide at the base. The flattened under surface has not been worked at all, but presents the naturally worn surface of the stone. The central line of the

* A Study of Prehistoric Anthropology.—Handbook for Beginners. *U.S. Nat. Mus. Report*, 1887-88, p. 638, f. 12.

† A. W. Howitt in Smyth's *Aborigines of Victoria*, 1878, II., p. 301.

arched side bears traces of longitudinal facets. The apex is obtuse and chipped, and the section irregularly triangular.

If a spear-head, and I do not see any other possible interpretation, it is certainly different to any others I have seen from Northern Australia, and will probably form a separate group, following Nos. 1 and 2 in the classification given by me in the first account of the Kimberley spear-heads.* At the same time there is a certain resemblance between it and the fine long axe-head of flesh-coloured quartzite lately figured.†

xii.—*Spear-heads from Settlement Creek and Nicholson River.*

(Pl. iv., figs. 2 and 3.)

The three spear-heads now to be noticed are a part of the Queensland Museum Collection forwarded to me by Mr. De Vis. Two are made of a semi-granular flesh-coloured quartzite,‡ similar to but coarser than the knife first described from the Gregory River, and perhaps more akin to the stone of the axes from "North Queensland," in the Australian Museum. Both these spear-heads have still adhering to their bases portions of the gum used in mounting. One of them is six and three-quarter inches long, by one and a quarter wide; the other is shorter, six and a quarter long, and broader, being one and five-eighths wide. The section is triangular, flat, or partially concave on one face, acutely angular and sharp in the middle line on the other, tapering to a moderately acute apex.

The third spear-head is composed of a dark chocolate felsite with flesh-coloured orthoclase, and is slightly enlarged at the base

* Records Geol. Survey N. S. Wales, 1890, II., Pt. 2, p. 65.

† Proc. Linn. Soc. N. S. Wales, 1890, v. (2), Pt. 3, Pl. 12, f. 14.

‡ The blacks near the Daly River, Arnhem's Land, are said by A. C. Gregory to possess spears formed of reeds with "large heads of white sandstone" (*Journals of Australian Exploration*, by A. C. and F. T. Gregory, 1884, p. 158, 8vo, Brisbane). It is possible that this rock may be similar to the quartzite described above. The use of the white man's materials for aboriginal weapons is again illustrated in the case of spear-heads. In the Queensland Court of the Indian and Colonial Exhibition of 1886 were fighting spears from the Etheridge River, pointed and barbed with pieces of telegraph wire, exhibited by Mr. W. Samwell, the Warden at Georgetown.

to afford a good grip to the cementing medium, portions of which still remain. It is six and three-eighths inches long, by one and two-eighths wide, with an acute apex. The median angular line is very acute, but at the base a large chip has been taken out of it (Pl. vi., fig. 3). One of the flesh-coloured heads, the shorter and broader, has a similar piece flaked off, but the longer of the two bears a narrow longitudinal facet, extending almost the whole length of the weapon, whilst at the apex there is a small supplementary triangular facet, and a larger one at the base. The cutting edges of all are sharp, but those of the felsite spear-head are naturally sharper; they are not strictly parallel edged in either, but there is a slightly flexuous or curved outline, which throws the apex more or less to one side, and renders it excentric to some extent. This curved appearance is well illustrated by Smyth in the case of a "knife" from the Paroo River,* the base of which is wrapt in 'possum fur, but otherwise the resemblance to our spear-heads is very strong.

A glance will at once show how different these are to the Kimberley spear-heads of glass and varieties of quartz, but of the general type of the small head of black jasperoid claystone obtained by Mr. Froggatt. In fact, the latter and the three spear-heads now under discussion will probably form a separate section in the classification of Australian stone spear-heads lately proposed by me,† between Nos. 2 and 3, and may be defined thus:—

No. 2a. Double-edged, three-faced, elongately-lanceolate, slightly curved heads, with a more or less entire margin. Nicholson River and Settlement Creek, North-west Carpentaria

At the same time their resemblance to the flesh-coloured axe-heads from "North Queensland"‡ must not be forgotten any more than in the case of the small Kimberley spear-head of jasperoid claystone. A comparison with these renders it clear that these spear-heads are rather longer weapons, more slender for their size, and with the somewhat curved lateral margins, which do not exist in the axe-heads.

* Aborigines of Victoria, 1878, i., p. 380, f. 201.

† Records Geol. Survey N. S. Wales, 1890, ii., Pt. 2, p. 65.

‡ Proc. Linn. Soc. N. S. Wales, 1890, v., Pt. 2, p. 368, pl. 12, f. 14.

xiii.—*Talismanic Stones, or Teyl.*

(Pl. VIII., figs. 4-6.)

The Teyl from Cooktown,* in the cabinet of Mr. G. Sweet of Brunswick, Melbourne, consisted of a mass of quartz crystals in one piece, and free of gum mounting. The present fine example (Pl. VIII., fig. 4) is again from Northern Queensland, and from the Queensland Museum Collection, and consists of two prismatic crystals of clear quartz united at the base by gum, and set alongside of one another. The cementing medium is rendered more coherent by being mixed with hair, which seems to be human. It would be exceedingly interesting to ascertain from what portion of the pilous system this hair is derived. According to Police-Trooper Gason the Dieyerie Tribe of South Australia use a belt of human hair called *Yinka*,† “ordinarily three hundred yards in length, and wound round the waist.” It is said to be greatly prized owing to the difficulty of procuring the necessary material. Mr. Howitt also mentions that the Cooper’s Creek natives wear a “very long cord wound round and round the waist like a belt,”‡ and I am informed by my colleague Mr. J. E. Carne, who has travelled extensively throughout that region, that the hair so used is pubic, obtained from the women, and only worn by the old men of the tribe. I quote these facts with the view of suggesting that the hair used in this *tael* may be similarly derived.

Mr. E. C. Blomfield, of Boorolong, has very kindly forwarded to my colleague Mr. W. Anderson, of the Geological Survey, three other *Taels*. The first of these consists of a small six-sided prism of slightly smoky quartz, with a fairly perfect termination. The crystal is one and a quarter inches long. The second stone is an irregularly shaped piece of clear white rock crystal (Pl. VIII., fig. 5) excentrically fractured, about half the size of a walnut. The third and fourth charms consist of opaque coffee-coloured quartz, one in the form of an irregular rhomb (Pl. VIII., fig. 6), the other

* *Ibid.* p. 370.

† The Native Tribes of S. Australia, edited by J. D. Woods, 1879, p. 289; and Smyth’s Aborigines of Victoria, 1878, I., p. 281.

‡ Smyth’s Aborigines of Victoria, 1878, II., p. 302.

a transversely elongated pebble, two and a half inches long.* The angles of these stones are all well rounded, and they had evidently undergone considerable attrition before selection for their aboriginal use. The longest diameter of the largest is two and a half inches. Touching these stones, Mr. Blomfield makes the following remarks in his letter accompanying them :—"The specimens were obtained by my brother from an old blackfellow at Mount Mitchell, Eastern New England, who told him that they had belonged to the last 'medicine man' of the tribe, and as he was the last representative, and not a 'doctor,' he had no use for them, and seemed rather glad at being relieved of their charge. He told my brother on no account to let any blackfellow know that he had given them to him. I know that the 'medicine men' in all the tribes carry these stones and attach great importance to them, never showing them to a white man. I have been told by the blacks that if a gin dared to look at them, she would be instantly killed. They pretend to work all sorts of cures with these stones, and I believe they are never shown except at their Bora meetings. These are the only ones I ever saw, except once, when an old 'medicine man' was doctoring one of my black boys, and pretended to suck one out of his head. I believe they descend from father to son, and those I send you have most likely been in use for generations. The blacks always carry them in a small dilly-bag under the arm, together with the bones of dead relatives."

xiv.—*Gouge*.

(Pl. v., fig. 6.)

Gouges, such as the specimen exhibited, and sometimes called chisels, seem now to be very rare, and little has been written on them. The present specimen, from "Northern Queensland," was forwarded by Mr. De Vis, and also forms a portion of the Queensland Museum Collection. It appears to me that the term gouge is preferable to that of chisel, and such will be here adopted. The late R. Brough Smyth says† that this implement is "formed of a

* According to Smyth, some of the white *tael*-stones carried by the Victorian "Doctors" are called *Warra-goop*. (*Aborigines of Victoria*, 1878, I., p. 464.)

† *Aborigines of Victoria*, 1878, I., p. 379, f. 199.

fragment of quartzite, firmly set into the end of a rough handle of wood, and secured in its place by gum." His example was seventeen inches in length. In the tool from the Queensland Museum more of the quartzite head is exposed than in Smyth's figure, and the handle, thirteen inches in length, is proportionately more slender and better finished, producing altogether a handier though slighter instrument. The handle is gently curved in the plane of the breadth of the chisel, so that the leverage of the operator's hand is much more increased than if the stick were straight. It is thickest in the middle, tapering off at both ends, and is composed, Mr. F. Turner tells me, probably of a species of *Myoporum*, one of the sandal-woods of the interior.

The small stone-head was produced by chipping, the lower side convex, the upper more or less flattened, and the cutting edge gently curved. The gum securing the head to the handle is curiously put on. On the convex face, or that side answering to the convexity of the handle, the largest amount of surface is left exposed, the edge of the gum curving from the cutting edge in a concave sweep. On the other side, or that answering to the concavity of the handle, the edge of the gum in the centre is horizontal, with a little lap on each side projecting forwards.

According to Smyth* this implement is "commonly used by the natives inhabiting the country north-east of the Grey Ranges."

It is also met with in West Australia, for this author figures a larger instrument of a similar nature, but differing in detail. He remarks on this† :—"Below the lump of gum in which the stone is fixed, the implement for the length of an inch and a half is smooth; then there is a hollow, and below that the round stick is grooved longitudinally, so as to enable the mechanic to obtain a firm hold of it. The wood is not heavy but very hard, and of a dark reddish-brown colour. It is used for cutting and shaping boomerangs, shields, clubs, &c., and is employed also in war and hunting. It is thrown in such a manner as to turn over in its flight, and if it strikes a man or a kangaroo death is certain." Smyth adds that the gouge resembles the implement used by the Grey

* Aborigines of Victoria, 1878, I., p. 379.

† *Ibid.* p. 340, f. 150.

Ranges natives, but is a more finished tool. Herein it resembles the specimen from the Queensland Museum, but it stands to reason that so much slighter an instrument as the latter could not produce the effects ascribed to the heavier weapon from West Australia. In the last-named province it is called *Dow-ak* or *Dhabba*.*

In his account of the Aborigines of Cooper's Creek,† Mr. A. W. Howitt refers to these gouges, and says that they are used "by the workman sitting down upon the ground, holding the piece of wood between his feet, and then adzing it, with the tool held towards him."

xv.—*Spike or awl.*

(Pl. vi., fig. 3.)

Although not a "stone" implement, this very interesting object, from amongst Mr. Froggatt's Kimberley gatherings, is worthy of notice. It appears to be of the nature of a spike or awl, and is formed of an old-fashioned cast-iron four-sided nail sharpened at one end and inserted in the proximal half of a human left radius, and the point of insertion coated in the usual manner with gum. I am ignorant whether human bones were much employed by our Aborigines in their manufactures, but I believe not, although bones of marsupials are to some extent, especially for some of their smaller implements.

Mr. Froggatt is unable to explain explicitly to what use this implement was put, but it may have been used as a carver in the ornamentation of wooden implements, or simply as an instrument for piercing or boring.

EXPLANATION OF PLATES IV.-VIII.

PLATE IV.

Fig. 1.—Spear-head, partially prepared, of black laminated jasperoid clay-stone; Kimberley. Coll. Froggatt.

Fig. 2.—Spear-head, granular flesh-coloured quartzite; Settlement Creek. Coll. Queensland Museum.

Fig. 3.—Spear-head, dark chocolate felsite, with flesh-coloured orthoclase; Nicholson River. Coll. Queensland Museum.

* Curr figures a very different form of chisel, consisting of a faceted stone mounted on a rough wooden handle by the aid of wax and string. (*Australian Race*, 1886, i., 11th plate.)

† "Notes on the Aborigines of Cooper's Creek." Smyth's *Aborigines of Victoria*, 1878, II., p. 300.

EXPLANATION OF PLATES (*continued*).

PLATE V.

- Fig. 1.—Knife, granular flesh-coloured quartzite; North Queensland. Coll. Queensland Museum.
- Fig. 2.—Spear-head, elongately lanceolate, with serrated edges, of white opaque milky quartz; Kimberley. Coll. Froggatt.
- Fig. 3.—Gouge; Northern Queensland. Coll. Queensland Museum.

PLATE VI.

- Fig. 1.—Knife, bottle-glass mounted on wooden handle (*Acacia sentis*) with black gum; Northern Queensland. Coll. Queensland Museum.
- Fig. 2.—Spear-head, elongately lanceolate; of bottle-glass serrated on edges; Kimberley. Coll. Froggatt.
- Fig. 3.—Awl (?) formed of a cast-iron four-sided nail inserted in the proximal half of a human left radius; Kimberley. Coll. Froggatt.

PLATE VII.

- Fig. 1.—Knife, of streaky flint-like quartz, broad along the back, mounted in old canvas and twine, and secured with black gum composition, which extends along the back; Northern Queensland. Coll. Queensland Museum.
- Fig. 2.—Spear-head, elongately lanceolate, of white opaque milky quartz; edges unserrated; Kimberley. Coll. Froggatt.
- Fig. 3.—Spear-head, elongately lanceolate, and with a very sharp apex; Kimberley. Coll. Froggatt.

PLATE VIII.

- Fig. 1.—Spear-head, white opaque milky quartz, and edges serrated; Kimberley. Coll. Froggatt.
- Fig. 2.—Spear-head, white chalcedonic quartz; Kimberley. Coll. Froggatt.
- Fig. 3.—Spear-head, foliolate, of smoky quartz; Kimberley. Coll. Froggatt.
- Fig. 4.—*Teyl*, of two prismatic crystals of clear quartz, held together by gum cement mixed with hair; North Queensland. Coll. Queensland Museum.
- Fig. 5.—*Teyl*, irregular shaped clear rock crystal; New England. Coll. Mining and Geological Museum.
- Fig. 6.—*Teyl*, rhomb of opaque coffee-coloured quartz; New England. Coll. Mining and Geological Museum.

NOTES AND EXHIBITS.

Mr. Etheridge showed a fine collection of aboriginal stone knives and implements in illustration of his paper.

Mr. Olliff exhibited specimens of the butterfly described in his paper